In The Claims:

Please amend claims 1, 25, and 45, as indicated below.

1. (Currently amended) A peer computing system, comprising:

a plurality of peer nodes operable to couple to a network, wherein each of the plurality of peer nodes comprises one or more network interfaces, wherein each network interface is configured to communicate over the network in accordance with at least one of one or more network transport protocols;

wherein the plurality of peer nodes is configured to implement a peer-to-peer environment on the network according to a peer-to-peer platform comprising one or more peer-to-peer platform protocols for enabling the plurality of peer nodes to discover each other, communicate with each other, and share content in the peer-to-peer environment, wherein to discover comprises obtaining an address for each discovered peer node;

wherein one of the plurality of peer nodes is configured to:

establish a communications channel between a network interface of the peer node and a network interface of another of the plurality of peer nodes;

transmit messages to the other peer node over the communications channel;

receive acknowledgement that one or more of the transmitted messages have been received by the other peer node; and

retransmit messages not acknowledged as received by the other peer node to the other peer node on the communications channel;

wherein said establishing, said transmitting, said receiving, and said retransmitting are performed according to at least one of the one or more peer-to-peer platform protocols and ~~separately~~ wherein said peer-to-peer platform protocols are distinct from the at least one network transport protocols.

2. (Original) The peer computing system as recited in claim 1, wherein, to transmit messages to the other peer node over the communications channel, the peer node is further configured to:

generate the messages;

buffer the messages, and after a window of N messages has been buffered, transmit the N messages to the other peer node over the communications channel, wherein N is an integer greater than one.

3. (Original) The peer computing system as recited in claim 2, wherein the other peer node is configured to receive the transmitted messages, and after receiving M messages, transmit the acknowledgement to the peer node indicating that the M messages have been received, wherein M is a positive integer less than or equal to N.

4. (Original) The peer computing system as recited in claim 3, wherein N is a positive even integer, and wherein M is equal to N / 2.

5. (Original) The peer computing system as recited in claim 3, wherein M is less than N.

6. (Original) The peer computing system as recited in claim 5, wherein, to receive acknowledgement that one or more of the transmitted messages have been received by the other peer node, the peer node is further configured to receive the acknowledgement indicating that the M messages have been received, and wherein the peer node is further configured to:

shift the window in the buffer by M messages; and

transmit the messages in the shifted window to the other peer node over the communications channel.

7. (Original) The peer computing system as recited in claim 6, wherein the shifted window includes one or more messages previously transmitted to the other peer node and one or more messages not previously transmitted to the other peer node.

8. (Original) The peer computing system as recited in claim 2, wherein each of the messages includes a sequence number for use in ordering the received messages on the other peer node, and wherein the other peer node is configured to:

receive the transmitted messages; and

after receiving the first M messages in the sequence of N transmitted messages as indicated by the sequence numbers, transmit the acknowledgement to the peer node indicating that the first M messages have been received, wherein M is a positive integer less than N.

9. (Original) The peer computing system as recited in claim 2, wherein each of the messages includes a sequence number for use in ordering the received messages on the other peer node, and wherein the other peer node is configured to:

continue receiving the transmitted messages until the first M messages in the sequence of N transmitted messages as indicated by the sequence numbers are received or a timeout limit from the time of initial receipt of one of the sequence of N transmitted messages is exceeded, wherein M is a positive integer less than N;

if the first M messages in the sequence of N transmitted messages as indicated by the sequence numbers are received, transmit the acknowledgement to the peer node indicating that a count of messages received in continuous sequence from a first message in the sequence of N transmitted messages is M; and

if the timeout limit is exceeded before the first M messages in the sequence of N transmitted messages as indicated by the sequence numbers are received, transmit the acknowledgement to the peer node indicating the count of messages received in continuous sequence from the first message in the sequence of N transmitted messages, wherein the count of messages received in continuous sequence is less than M.

10. (Original) The peer computing system as recited in claim 9, wherein, to receive acknowledgement that one or more of the transmitted messages have been received by the other peer node, the peer node is further configured to receive the acknowledgement indicating that the messages have been received, and wherein the peer node is further configured to:

shift the window in the buffer by the count of messages received in continuous sequence; and

transmit the messages in the shifted window to the other peer node over the communications channel.

11. (Original) The peer computing system as recited in claim 1, wherein each of the messages includes a sequence number for use in ordering the received messages on the other peer node.

12. (Previously presented) The peer computing system as recited in claim 3, wherein the peer node and the other peer node are further configured to:

monitor reception and retransmission of the messages to determine reliability of the communications channel on the network; and

adjust the values of M and N according to said reliability of the communications channel.

13. (Original) The peer computing system as recited in claim 12, wherein, to adjust the values of M and N, the peer node and the other peer node are further configured to lower the values of M and N if said reliability of the communications channel is poor.

14. (Original) The peer computing system as recited in claim 12, wherein, to adjust the values of M and N, the peer node and the other peer node are further configured to raise the values of M and N if said reliability of the communications channel is good.

15. (Original) The peer computing system as recited in claim 1, wherein the other peer node is configured to:

transmit other messages to the peer node over the communications channel;

receive acknowledgement that one or more of the transmitted other messages have been received by the peer node; and

retransmit messages not acknowledged as received by the peer node to the peer node on the communications channel.

16. (Original) The peer computing system as recited in claim 1, wherein the peer node comprises an instance of a pipe service executable within the peer node to establish the communications channel, transmit the messages to the other peer node, receive the acknowledgement, and retransmit the messages not acknowledged as received.

17. (Original) The peer computing system as recited in claim 16, wherein the other peer node comprises another instance of the pipe service executable within the other peer node to receive the transmitted messages and transmit the acknowledgement to the peer node.

18. (Original) The peer computing system as recited in claim 1, wherein the communications channel passes through one or more relay peers, wherein the one or more relay peers are configured to receive the transmitted messages from the peer node and forward the messages to the other peer node.

19. (Original) The peer computing system as recited in claim 1, wherein the communications channel passes through one or more firewalls.

20. (Original) The peer computing system as recited in claim 1, wherein the communications channel passes through one or more Network Address Translation (NAT) gateways.

21. (Original) The peer computing system as recited in claim 1, wherein one or more other of the plurality of peer nodes are configured to connect to the communications channel, wherein the peer node is further configured to:

transmit messages to the one or more other peer nodes over the communications channel;

receive acknowledgements that one or more of the transmitted messages have been received by the one or more other peer nodes; and

retransmit messages not acknowledged as received by the one or more other peer nodes to the one or more other peer node on the communications channel.

22. (Original) The peer computing system as recited in claim 1, wherein the peer node is further configured to compare elapsed time since the messages were transmitted to a timeout limit and, if the elapsed time exceeds the timeout limit, retransmit the messages to the other peer node over the communications channel.

23. (Original) The peer computing system as recited in claim 1, wherein the peer node is further configured to:

receive a request specifying one or more previously transmitted messages for retransmission by the peer node; and

retransmit the specified one or more messages to the other peer node on the communications channel in response to the request.

24. (Previously presented) The peer computing system as recited in claim 23, wherein the request specifies a sequence number for each of the one or more specified messages, wherein the sequence numbers are for use in ordering the received messages on the other peer node.

25. (Currently amended) A method for providing reliable connections between peer nodes coupled to a peer-to-peer network, the method comprising:

a plurality of peer nodes coupled to the network implementing a peer-to-peer environment on the network according to a peer-to-peer platform comprising one or more peer-to-peer platform protocols for enabling the plurality of peer nodes to discover each other, communicate with each other, and share content in the peer-to-peer environment, wherein to discover comprises obtaining an address for each discovered peer node;

establishing a communications channel between a network interface of one of the plurality of peer nodes and a network interface of another of the plurality of peer nodes;

the peer node transmitting messages to the other peer node over the communications channel;

the peer node receiving acknowledgement that one or more of the transmitted messages have been received by the other peer node; and

the peer node retransmitting messages not acknowledged as received by the other peer node to the other peer node on the communications channel;

wherein said establishing, said transmitting, said receiving, and said retransmitting are performed according to at least one of the one or more peer-to-peer platform protocols, and wherein the at least one of the one or more peer-to-peer platform protocols is distinct from any underlying network transport protocols.

26. (Original) The method as recited in claim 25, wherein, in said transmitting messages to the other peer node over the communications channel, the method further comprises:

generating the messages;

buffering the messages, and after a window of N messages has been buffered, transmitting the N messages to the other peer node over the communications channel, wherein N is an integer greater than one.

27. (Original) The method as recited in claim 26, further comprising the other peer node receiving the transmitted messages, and after receiving M messages, transmitting the acknowledgement to the peer node indicating that the M messages have been received, wherein M is a positive integer less than or equal to N.

28. (Original) The method as recited in claim 27, wherein N is a positive even integer, and wherein M is equal to N / 2.

29. (Original) The method as recited in claim 27, wherein M is less than N.

30. (Original) The method as recited in claim 29, wherein, in said receiving acknowledgement that one or more of the transmitted messages have been received by the other peer node, the method further comprises the peer node receiving the acknowledgement indicating that the M messages have been received, and wherein the method further comprises:

shifting the window in the buffer by M messages; and

transmitting the messages in the shifted window to the other peer node over the communications channel.

31. (Original) The method as recited in claim 30, wherein the shifted window includes one or more messages previously transmitted to the other peer node and one or more messages not previously transmitted to the other peer node.

32. (Original) The method as recited in claim 26, wherein each of the messages includes a sequence number for use in ordering the received messages on the other peer node, and wherein the method further comprises:

the other peer node receiving the transmitted messages; and

after receiving the first M messages in the sequence of N transmitted messages as indicated by the sequence numbers, the other peer node transmitting the acknowledgement to the peer node indicating that the first M messages have been received, wherein M is a positive integer less than N.

33. (Original) The method as recited in claim 26, wherein each of the messages includes a sequence number for use in ordering the received messages on the other peer node, and wherein the method further comprises:

the other peer node continuing to receive the transmitted messages until the first M messages in the sequence of N transmitted messages as indicated by the sequence numbers are received or a timeout limit from the time of initial receipt of one of the sequence of N transmitted messages is exceeded, wherein M is a positive integer less than N;

if the first M messages in the sequence of N transmitted messages as indicated by the sequence numbers are received, the other peer node transmitting the acknowledgement to the peer node indicating that a count of messages received in continuous sequence from a first message in the sequence of N transmitted messages is M; and

if the timeout limit is exceeded before the first M messages in the sequence of N transmitted messages as indicated by the sequence numbers are received, the other peer node transmitting the acknowledgement to the peer node indicating the count of messages received in continuous sequence from the

first message in the sequence of N transmitted messages, wherein the count of messages received in continuous sequence is less than M.

34. (Original) The method as recited in claim 33, wherein, in said receiving acknowledgement that one or more of the transmitted messages have been received by the other peer node, the method further comprises the peer node receiving the acknowledgement indicating that the messages have been received, and wherein the method further comprises:

shifting the window in the buffer by the count of messages received in continuous sequence; and

transmitting the messages in the shifted window to the other peer node over the communications channel.

35. (Original) The method as recited in claim 25, wherein each of the messages includes a sequence number for use in ordering the received messages on the other peer node.

36. (Previously presented) The method as recited in claim 27, further comprising:

monitoring reception and retransmission of the messages to determine reliability of the communications channel on the network; and

adjusting the values of M and N according to said reliability of the communications channel.

37. (Original) The method as recited in claim 36, wherein, in said adjusting the values of M and N, the method further comprises lowering the values of M and N if said reliability of the communications channel is poor.

38. (Original) The method as recited in claim 36, wherein, in said adjusting the values of M and N, the method further comprises raising the values of M and N if said reliability of the communications channel is good.

39. (Original) The method as recited in claim 25, further comprising:

the other peer node transmitting other messages to the peer node over the communications channel;

the other peer node receiving acknowledgement that one or more of the transmitted other messages have been received by the peer node; and

the other peer node retransmitting messages not acknowledged as received by the peer node to the peer node on the communications channel.

40. (Original) The method as recited in claim 25, wherein the communications channel passes through a relay peer, the method further comprising the relay peer receiving the transmitted messages from the peer node and forwarding the messages to the other peer node.

41. (Original) The method as recited in claim 25, wherein the communications channel passes through one or more firewalls.

42. (Original) The method as recited in claim 25, wherein the communications channel passes through one or more Network Address Translation (NAT) gateways.

43. (Original) The method as recited in claim 25, further comprising the peer node comparing elapsed time since the messages were transmitted to a timeout limit and, if the elapsed time exceeds the timeout limit, retransmitting the messages to the other peer node over the communications channel.

44. (Original) The method as recited in claim 25, further comprising:

the peer node receiving a request specifying one or more previously transmitted messages for retransmission by the peer node; and

the peer node retransmitting the specified one or more messages to the other peer node on the communications channel in response to the request.

45. (Currently amended) A computer-readable storage medium, comprising software instructions executable on a peer node to implement:

the peer node establishing a communications channel between a network interface of the peer nodes and a network interface of another peer node of a plurality of peer nodes coupled to a network implementing a peer-to-peer environment on the network according to a peer-to-peer platform comprising one or more peer-to-peer platform protocols for enabling the plurality of peer nodes to discover each other, communicate with each other, and share content in the peer-to-peer environment, wherein to discover comprises obtaining an address for each discovered peer node;

the peer node transmitting messages to the other peer node over the communications channel;

the peer node receiving acknowledgement that one or more of the transmitted messages have been received by the other peer node; and

the peer node retransmitting messages not acknowledged as received by the other peer node to the other peer node on the communications channel;

wherein said establishing, said transmitting, said receiving, and said retransmitting are performed according to at least one of the one or more peer-to-peer platform protocols, and wherein the at least one of the one or more peer-to-peer platform protocols is distinct from any underlying network transport protocols.

46. (Previously presented) The storage medium as recited in claim 45, wherein, in said transmitting messages to the other peer node over the communications channel, the software instructions are further executable to implement:

generating the messages;

buffering the messages, and after a window of N messages has been buffered, transmitting the N messages to the other peer node over the communications channel, wherein N is an integer greater than one.

47. (Previously presented) The storage medium as recited in claim 46, wherein the software instructions are further executable to implement the peer node receiving the acknowledgement from the other peer node indicating that the M messages have been received by the other peer node, wherein M is a positive integer less than or equal to N.

48. (Previously presented) The storage medium as recited in claim 47, wherein N is a positive even integer, and wherein M is equal to N / 2.

49. (Previously presented) The storage medium as recited in claim 47, wherein M is less than N.

50. (Previously presented) The storage medium as recited in claim 49, wherein, in said receiving acknowledgement that one or more of the transmitted messages have been received by the other peer node, the software instructions are further executable to implement:

shifting the window in the buffer by M messages; and

transmitting the messages in the shifted window to the other peer node over the communications channel.

51. (Previously presented) The storage medium as recited in claim 50, wherein the shifted window includes one or more messages previously transmitted to the other peer node and one or more messages not previously transmitted to the other peer node.

52. (Previously presented) The storage medium as recited in claim 46, wherein each of the messages includes a sequence number for use in ordering the received messages on the other peer node, and wherein the software instructions are further executable to implement:

the peer node receiving acknowledgement from the other peer node indicating that the first M messages in the sequence of N transmitted messages as indicated by the sequence numbers have been received by the other peer node, wherein M is a positive integer less than N.

53. (Previously presented) The storage medium as recited in claim 46, wherein each of the messages includes a sequence number for use in ordering the received messages on the other peer node, and wherein the software instructions are further executable to implement:

the peer node receiving an acknowledgement from the other peer node indicating:

the other peer node received M messages in continuous sequence from a first message in the sequence of N transmitted message if the other peer node continued to receive the transmitted messages until the

first M messages in the sequence of N transmitted messages were received; or

the other peer node received less than M messages in continuous sequence from the first message in the sequence of N transmitted messages if a timeout limit from initial receipt of one of the sequence of N transmitted message was exceeded before the first M messages in the sequence of N transmitted messages as indicated by the sequence numbers was received by the other peer node.

54. (Previously presented) The storage medium as recited in claim 53, wherein, in said receiving acknowledgement that one or more of the transmitted messages have been received by the other peer node, the software instructions are further executable to implement the peer node receiving the acknowledgement indicating that the messages have been received, and wherein the software instructions are further executable to implement:

shifting the window in the buffer by the count of messages received in continuous sequence; and

transmitting the messages in the shifted window to the other peer node over the communications channel.

55. (Previously presented) The storage medium as recited in claim 45, wherein each of the messages includes a sequence number for use in ordering the received messages on the other peer node.

56. (Previously presented) The storage medium as recited in claim 47, wherein the software instructions are further executable to implement:

monitoring reception and retransmission of the messages to determine reliability of the communications channel on the network; and

adjusting the values of M and N according to said reliability of the communications channel.

57. (Previously presented) The storage medium as recited in claim 56, wherein, in said adjusting the values of M and N, the software instructions are further executable to implement lowering the values of M and N if said reliability of the communications channel is poor.

58. (Previously presented) The storage medium as recited in claim 56, wherein, in said adjusting the values of M and N, the software instructions are further executable to implement raising the values of M and N if said reliability of the communications channel is good.

59. (Previously presented) The storage medium as recited in claim 45, wherein the software instructions are further executable to implement:

the peer node receiving other messages from the other peer node over the communications channel;

the peer node sending acknowledgement to the other peer node that one or more of the transmitted other messages have been received by the peer node; and

the peer node receiving retransmitted messages not acknowledged as received by the peer node on the communications channel.

60. (Previously presented) The storage medium as recited in claim 45, wherein the software instructions are further executable to implement:

configuring the peer node as a relay peer, wherein a communications channel between a third peer node of the plurality of peer nodes and the other peer node passes through the peer node;

the peer node receiving messages transmitted from the third peer node to the other peer node; and

forwarding the messages to the other peer node.

61. (Previously presented) The storage medium as recited in claim 45, wherein the communications channel passes through one or more firewalls.

62. (Previously presented) The storage medium as recited in claim 45, wherein the communications channel passes through one or more Network Address Translation (NAT) gateways.

63. (Previously presented) The storage medium as recited in claim 45, wherein the software instructions are further executable to implement the peer node comparing elapsed time since the messages were transmitted to a timeout limit and, if the elapsed time exceeds the timeout limit, retransmitting the messages to the other peer node over the communications channel.

64. (Previously presented) The storage medium as recited in claim 45, wherein the software instructions are further executable to implement:

the peer node receiving a request specifying one or more of the transmitted messages for retransmission by the peer node; and

the peer node retransmitting the specified one or more messages to the other peer node on the communications channel in response to the request.